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REMARKS

Applicant has amended claims 28, 31 and 33. Applicant respectfully submits that these amendments to the claims are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims as amended.

The Examiner has objected to claims 31 and 35 as being of improper multiple dependent form. In view of the amendments to the claims, Applicant respectfully submits that claims 31, 35 and 44 are not objectionable.

The Examiner has rejected claims 28 and 33 under 35 USC 112, second paragraph, as being indefinite. In view of the amendments to the claims, Applicant respectfully submits that claims 28 and 33 now comply with 35 USC 112, second paragraph.

The Examiner has rejected claims 1-24, 28-33, 35-36 and 41-43 under 35 USC 102 as being anticipated by Jung et al., stating that Jung et al. discloses substantially all of the elements of the present invention.

In reply thereto, Applicant has carefully reviewed Jung et al. and respectfully submits that Applicant's invention as claimed is patentably distinct from Jung et al. In particular, Applicant's invention as claimed requires an exciting light, infrared light and ultraviolet light irradiated to an object for producing images of the object. The irradiated light is characteristic of the present invention, as are the images produced from various light. With this in mind, Applicant has carefully reviewed Jung et al. and respectfully submits that Jung et al. merely discloses an apparatus for measuring the amount of light with different wavelengths at once by means of a plurality of sensors to measure the optical characteristics of an object. However, Applicant respectfully submits that Jung et al. does not disclose or suggest that the object is imaged by switching the type of radiation light.

Still further, Applicant respectfully submits that the Examiner has misunderstood Jung et al. as to the use of infrared light. In particular, Applicant respectfully submits that in Jung et al. the infrared light is removed from the radiation light in advance by not reflecting the infrared light with a mirror 6 (see col. 9, lines 7-30) and therefore Jung et al. does not show or suggest that the object would be imaged with infrared light. Still further, Applicant respectfully submits that the linear optical sensor in Fig.11 and the matrix optical sensor in Fig.12 of Jung et al. are not imaging means. In fact, Applicant respectfully submits that each of the sensors is for converting the

amount of physical light applied thereto into a voltage and the like. Therefore, Applicant respectfully submits that Jung et al. merely discloses a plurality of light amount detection sensors linearly arranged or arranged in a matrix.

Also, Applicant's review of Jung et al. indicates that the filter provided therein is provided for a different purposes than the present invention. In particular, the filter of Jung et al. is a color gradient filter and is provided between a pair of receiver fiber optics and a linear optical sensor to pass the particular light depending on the characteristics of the sensor so that the sensor can detect the amount of light of that particular color. In contrast thereto, the filter in Applicant's invention is designed to block off such extra light as exciting light or illumination light in order to efficiently receive the fluorescence light that is excited by the exciting light so that the fluorescence light which is weak compared to the reflected exciting light can be detected.

In addition to the above, Applicant respectfully submits that the Examiner's description of Fig. 40 contained in the second paragraph of page 4 of the Office Action is incorrect. Applicant respectfully submits that Jung et al. discloses a structure for accurately obtaining the data of only a part of the tooth surface and does not disclose or suggest that the characteristic image of the tooth is obtained by switching the irradiation light.

Finally, Applicant respectfully submits that the curing light 302 of Jung et al. is just for hardening photo-polymerization resin and is not for imaging fluorescence light. Still further, Applicant respectfully submits that when light with $400\pm 30\text{nm}$ wavelength is irradiated, the fluorescence light excited from the object is received via a light receiving filter which transmits the light with a wavelength over than 430nm to thereby obtain a fluorescent image and has nothing to do with photo-polymerization.

In view of the above, Applicant respectfully submits that Jung et al. does not disclose each and every element of Applicant's invention and claims 1-24, 28-33, 35, 36 and 41-44 are not anticipated by Jung et al.

The Examiner has rejected claims 25-27 and 37-40 under 35 USC 103 as being obvious over Jung et al. in view of Melikechi et al., stating that Jung et al. discloses all of the present invention except that the filter unit comprises plural kinds of light receiving filters being rotationally disposed around an axis which is parallel to/or normal to an optical axis direction of said imaging means or said luminous means; Melikechi et al. teaches this limitation in a

photocuring device; and it would have been obvious to one of ordinary skill in the art to modify Jung et al. in view of the teachings of Melikechi et al.

In reply thereto, Applicant would to incorporate by reference his comments above concerning Applicant's invention and Jung et al. In addition, Applicant has carefully reviewed Melikechi et al. and respectfully submits that it merely discloses a photocuring device in which final radiation light is made uniform by arranging plural LEDs in different directions respectively. However, Applicant respectfully submits that Melikechi et al. does not relate to an imaging device and merely discloses a control head angle so as to effectively irradiate light for photocuring and nothing else. Still further, Applicant respectfully submits that Melikechi et al. merely teaches the arrangement of light emitting elements and not the light receiving elements as in Applicant's invention.


In view of the above, therefore, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner would not be suggested to one of ordinary skill in the art. Therefore, Applicant respectfully submits that claims 25-27 and 37-40 are not obvious over Jung et al. in view of Melikechi et al.

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

Respectfully submitted,

KODA & ANDROLIA

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